flower hosts. However, R. E. Fye collected a male on mustard, *Brassica nigra* (L.) Koch, May 30, 1953, at Madison. Flower records of this species were summarized by Mitchell (1962).

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THE NORTH AMERICAN SPECIES OF METACOLUS

(HYMENOPTERA, PTEROMALIDAE)

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The genus *Metacolus* Foerster includes a small number of species that are parasitic on scolytid beetles in forest trees. In the Palearctic region it includes *M. unifasciatus* Foerster and *M. varicolor* (Foerster), but it has long been thought that only one species, *M. fasciatus* Girault, exists in North America. On the basis of published descriptions alone, there would be considerable justification for considering our *fasciatus* to be the same as the Palearctic *unifasciatus*. However, Dr. Bouček of the National Museum of Prague has recently sent us identified male and female specimens of *unifasciatus*. When I compared the two species, it was quite evident that *unifasciatus*, in which the male forewing lacks a sclerotic spot behind the marginal vein and has a prominent marginal crossband, is different from *fasciatus*, in which the male forewing has a sclerotic spot and lacks the marginal crossband. The females of the two differ most obviously in the coloring of the forewings, the submarginal crossband of *fasciatus* being absent in *unifasciatus*. Dr. Hedqvist of the Swedish Museum of Natural History, Stockholm, has sent us an identified female specimen of *varicolor*, which also proves to be different from our species. In *varicolor* the forewing has the marginal vein relatively narrower, and there are no colored crossbands.

There has long been a second, undescribed, species of a North American *Metacolus* in the U. S. N. M. collection. It is described here, along with a recharacterization of *fasciatus*.

Metacolus Foerster

Metacolus Foerster, 1856, Hym. Stud., v. 2, p. 65; Thomson, 1878, Hym. Scand., v. 5, p. 36; Dalla Torre, 1898, Cat. Hym., v. 5, p. 174; Ashmead, 1904, Carnegie Mus. Mem., 1: 315, 316, 381; Schmiedeknecht, 1909, Gen. Ins., fasc. 97, p. 316, 317; Girault, 1917, Descr. Stell. Nov., p. 14; Mercet, 1924, Rev. Fitopat., pt. 1, p. 2; Ferrière, 1948, Schw. Ent. Ges. Mitt., 21: 519, 529; Peck *in* Muesebeck *et al.*, 1951, U.S. Dept. Agr. Monog., 2, p. 549; Burks, 1953, Ent. Soc. Washington Proc., 55: 44; Bouček, 1957, Acta Faun. Ent. Mus. Nat. Prag., 2: 76; Burks *in* Krombein *et al.*, 1958, U.S. Dept. Agr. Monog. 2, Suppl., p. 76; Peck, 1963, Canad. Ent. Suppl. 30, p. 655; Hedqvist, 1963, Stud. Forest. Suecica, No. 11, p. 97.

Type.—*Metacolus unifasciatus* Foerster; monotypic.

Pterosema Foerster, 1878, Naturh. Ver. Preuss. Rheinl. Verh., 35: 44; Dalla Torre, 1898, Cat. Hym., v. 5, p. 200; Ashmead, 1904, Carnegie Mus. Mem., 1: 331, 332, 387; Schmiedeknecht, 1909, Gen. Ins., fasc. 97, p. 375, 376, 382; Bouček, 1957, Acta Faun. Ent. Mus. Nat. Prag., 2: 76 (= *Metacolus* Foerster).

Type.—*Pterosema varicolor* Foerster; monotypic.

The following combination of characters will distinguish the members of the genus *Metacolus* from all other genera of the family Pteromalidae:

Head in anterior aspect slightly wider than high, subquadrate; antennae inserted in center of frons, well above level of ventral margins of compound eyes; antennal formula—1 : 1 : 2 : 6 : 3, second ring segment longer than first; club wider than funiculus; pronotum subconic, immargined anteriorly; parapsidal grooves weak anteriorly, wanting posteriorly; marginal vein of forewing short and greatly thickened, stigmal and postmarginal veins much shorter than marginal; all femora enlarged, hind tibia with one apical spur; propodeum almost or quite smooth, median and lateral carinae absent, spiracles small and removed from anterior propodeal margin; gaster sessile and longer than thorax in female, subequal to thorax in male; apex of gaster conically produced and slender in female, subtruncate in male. Antigeny not great, sexes differing chiefly in shape of gaster.

Key to Nearctic Species

Thorax tan with metallic green shading dorsally and with faint lavender metallic sheen laterally; apex of antennal scape exceeding level of vertex ..... **fasciatus** Girault

Thorax uniformly purplish-black; apex of antennal scape not quite reaching level of anterior ocellus ..... **keeni**, new species

Metacolus fasciatus Girault

Metacolus fasciatus Girault, 1917, Descr. Stell. Nov., p. 14; Peck *in* Muesebeck *et al.*, 1951, U.S. Dept. Agr. Monog. 2, p. 549; Burks, 1953, Ent. Soc. Washington Proc., 55: 44; Burks *in* Krombein *et al.*, 1958, U.S. Dept. Agr. Monog. 2, Suppl., p. 76; Peck, 1963, Canad. Ent. Suppl. 30, p. 655.

Metacolus bifasciatus Girault, 1917, Descr. Stell. Nov., p. 14; Peck *in* Muesebeck *et al.*, 1951, U.S. Dept. Agr. Monog. 2, p. 549; Burks, 1953, Ent. Soc. Washington Proc., 55: 44 (= *fasciatus* Girault).

Tan, with strong metallic blue-green shading on head and dorsum of thorax; weaker metallic lavender shading on thoracic pleura, coxae, and femora; propodeum and gaster usually with faint metallic green or lavender shading. Female forewing with a dark brown crossband at apex of submarginal vein and another behind marginal vein; male wing with a large, rounded and sclerotized spot behind marginal vein, submarginal crossband faint or wanting, marginal crossband absent.

Female.—Length 2.0–2.75 mm. Face shagreened, mat; paraserobal areas and frontovertex faintly sculptured and shining; apex of antennal scape exceeding level of vertex; basal 4 funicular segments longer than broad, fifth segment as broad as long, sixth broader than long; malar space ⅔ as long as compound eye; ocellocular line ½ as long as postocellar line. Thoracic dorsum with strong, alveolate sculpture; fore and hind femora each ⅓ as wide as long, mid femur slightly narrower; prepectus and metepisternum faintly sculptured, almost smooth; mesepisternum with uniform alveolate sculpture, densely hairy; mesepisternum without hair, dorsal sector smooth and shining, ventral seetor with fine and relatively weak alveolate sculpture; forewing with marginal vein ½ as broad as long; stigmal and postmarginal veins subequal in length and each ½ as long as marginal; stigmal knob not enlarged, but pigmented. Propodeum almost smooth, with fine and faint alveolate sculpture; spiracles circular. Gaster twice as long as thorax.

Male.—Length 1.9–2.1 mm. Fore femur ⅓ as wide as long, mid femur $\frac{3}{10}$ as broad as long, hind femur ⅖ as broad as long; gaster 1¼ times as long as thorax.

Type locality.—Las Vegas Hot Springs, N. Mex. (Montezuma, N. Mex., of present-day maps.)

Type.—USNM No. 19787.

Distribution.—North Dakota south to New Mexico, west to Washington and California.

Host relationships.—This species presumably is a primary parasite of scolytid beetles in coniferous trees. It usually is reared, however, in association with a variety of other parasites which makes its exact host relationships difficult to establish. It has been reared from *Pinus ponderosa, P. monophylla*, and *P. jeffreyi* and from *Juniperus deppeana pachyphloea*, all infested with scolytids.

Metacolus keeni, new species

Black with dark iridescent purple sheen; face metallic green, basal 2 or 3 segments of mid and hind tarsus white; forewing with marginal vein, and a broad band crossing wing behind it, black.

Female.—Length 2.0–2.3 mm. Face shagreened and mat, paraserobal areas smooth and shining, frontovertex faintly sculptured, shining; antennal scape short, its apex not quite reaching anterior ocellus; all funicular segments broader than long; malar space ⅗ as long as compound eye; ocellocular line ½ as long as postocellar. Thoracic dorsum with weak alveolate sculpture; hind femur ⅓ as broad as long, fore and mid femora slightly narrower; prepectus and metepisternum

smooth and shining; mesepisternum faintly sculptured and sparsely hairy at margins, mesepimeron smooth and shining; forewing with marginal vein ⅓ as wide as long, stigmal and postmarginal veins subequal in length and each ½ as long as marginal; stigmal knob greatly enlarged and hyaline. Propodeum smooth and shining; spiracles short oval. Gaster 1½ times as long as thorax.

Male.—Length 1.5–1.8 mm. Gaster 1¼ times as long as thorax.

Type locality.—Big Bear, San Bernardino National Forest, Calif.

Types.—USNM No. 65001.

Described from 4 ♀ and 3 ♂ specimens as follows: Type ♀, allotype ♂, and 2 ♀ paratypes reared under Hopkins No. 18137-j, at Big Bear, San Bernardino National Forest, Calif., Sept. 1, 1928, from *Pinus monophylla* infested with *Pityophthorus* sp., F. P. Keen; 1 ♀ paratype, Hopkins No. 32542-C, Mt. Laguna, Calif., Nov. 1940, from *Pinus coulteri* infested with *Cylindrocopturus* sp. and *Pityophthorus* sp., D. M. DeLeon; 1 ♂ paratype, Hopkins No. 33856-d, Mt. Laguna, Calif., April 1952, reared from *Pinus jeffreyi*, R. Z. Callahan; 1 ♂ paratype, Capulin, N. Mex., Dec. 27, 1934, reared from *Pinus edulis*, D. M. DeLeon.

Host relationships.—This species apparently is a primary parasite of scolytid beetles in pines.